

**ABSTRACT**

**“Method and device for efficient decoding of symbols transmitted in a MIMO telecommunication system”**

The present invention relates to a method for decoding at least one signal  $Sg_1, Sg_2 \dots Sg_N$  transmitted by means of at least one antenna and received by means of at least one antenna, which method includes a symbol decoding step for producing at least one estimated symbol representative of at least one transmitted symbol carried by the received signal.

According to the invention, the symbol decoding step is executed by a space-time decoder SPTDEC including a symbol decoder MMSESD intended to produce an estimation of at least one symbol with respect to which estimation the transmitted symbol features a minimum mean square error.

The minimum mean square error symbol decoder MMSESD requires less operating computing power than other decoders currently used for decoding incoming symbols, like list sphere decoders.

Fig.2